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Parent-Child Acculturation Profiles and Adolescent Language Brokering Experiences in Mexican Immigrant Families

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Parent-Child Acculturation Profiles and Adolescent Language Brokering Experiences in Mexican Immigrant Families

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Abstract

Parent-Child Acculturation Profiles and Adolescent Language Brokering Experiences in Mexican Immigrant Families

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Language brokering is a special form of interpersonal communication that is affected by the cultural and relational settings in which it occurs. Taking a dyadic perspective of acculturation allows us to see how parent-adolescent acculturation is contextually situated. The current study aims to explore whether the joint acculturation status of parent-adolescent dyads may be one of the precursors that affects objective and subjective experiences of adolescent language brokering. Using data from a two-wave longitudinal study of Mexican American adolescent language brokering families (N = 604 at Wave 1; N = 483 at Wave 2; $M_{wave1\,age}$ = 12,91; 54.3% female), I conducted latent profile analyses and found four mother-adolescent acculturation profiles and three father-adolescent profiles: adolescent *integrated*–mother *separated*, adolescent *moderately assimilated*–mother *moderately separated*, adolescent *moderately integrated*–mother *moderately separated*, and adolescent *moderately integrated*–mother *separated*; adolescent *integrated*–father *moderately separated*, adolescent *moderately assimilated*–

father *moderately separated*, and adolescent *moderately integrated*–father *moderately separated*. The adolescent *integrated*–parent *(moderately) separated* profiles emerged as the most adaptive, as they related to more positive language brokering experiences compared with other profiles.

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Introduction

Mexican immigrant family members often experience the acculturation process, which refers to members adapting to the U.S. culture while maintaining their Mexican culture, and members show variation in acculturation levels (Telzer, 2010). In these families, a culturally unique phenomenon, language brokering, occurs whenever adolescents in the family translate between English and Spanish for their English-limited parents (Kim, Hou, & Gonzalez, 2017). As language brokering is a common activity performed by Mexican-origin adolescents in immigrant families (e.g., Dorner, Orellana, & Jiménez, 2008) , and as language brokering may be a central part of these adolescents' identity (Kim, Hou, Shen, & Zhang, 2017), understanding their brokering experiences, an important component of their daily lives, may provide an avenue to study language brokers' development. Adolescent language brokers usually have various brokering-related experiences (e.g., efficacious, burdensome; Wu & Kim, 2009). Studying the precursors of language brokering experiences may offer insights into the differences in brokering experiences among brokers. Previous studies have identified antecedents that help explain the variation in brokering experiences, such as adolescent acculturation (Weisskirch, 2005) and ethnic identification (Kam, 2009). Although these studies have looked at factors that predict brokering experiences from the adolescent perspective, they failed to take parental perspectives into consideration. Several language brokering researchers posit that language brokering is a transactional process in which adolescents team up with their parents to interact with mainstream society (e.g., Katz, 2010; Villanueva & Buriel, 2010). The current study aims to bring in the parental perspective and identify the acculturation status of parent-adolescent dyads in an effort to explain the variation in language brokering experiences of Mexican American adolescents.

According to Kam and Lazarevic (2014a), language brokering is a situated social process in which both cultural and family contexts may influence language brokering experiences. By combining Mexican immigrant parents' and their adolescent children's acculturation into one joint status, this study can better represent the cultural and family contexts that may predict language brokering experiences. The cultural component is represented by testing acculturation, while the family context is represented by measuring parent-adolescent acculturation as a joint construct. To date, no empirical study has tested whether and how the combination of parent acculturation status and child acculturation status may explain the variation in adolescent language brokering experiences. I plan to take a typological approach, and will begin by identifying different types of parent-adolescent acculturation profiles. I will then test the influence of these parent-child acculturation profiles on language brokering experiences among adolescents in Mexican American immigrant families.

ADOLESCENT LANGUAGE BROKERING EXPERIENCES

Language brokering experiences are multifaceted. Understanding various language brokering experiences is important, because different aspects of language brokering have important implications for adolescent well-being across multiple developmental domains (see Shen, Tilton, & Kim, 2017 for a review). While extant studies have focused on how different language brokering experiences have various consequences for adolescent well-being, we know less about predictors of language brokering experiences, particularly predictors that represent both the cultural and family contexts of the language brokering experiences. In addition, there is currently a dearth of research that comprehensively considers predictors and the multiple facets of the language brokering experience.

Language brokering experiences are comprised of two main facets, the objective and subjective components. The chief objective measure of language brokering experience is to assess the frequency with which the activity occurs. The subjective component is measured by examining both positive and negative aspects of brokering experiences. Often, studies on language brokering use a single item to test positive or negative aspects of language brokering (e.g., Kam, 2011), or focus on a single component of positive (e.g., efficacy) or negative (e.g., burden) language brokering experiences (e.g., Kim, Hou, & Gonzalez, 2017; Wu & Kim, 2009), which may not capture the full range of positive and negative aspects of language brokering experiences (Kim, Hou, Shen, et al., 2017). Therefore, studies need to take into consideration the multiple aspects of positive and negative subjective experiences of language brokering, and examine them simultaneously. The extant literature shows that adolescents endorsing more positive language brokering experiences include those who have positive emotions (Kam & Lazarevic, 2014b), improve their linguistic skills in both languages (Weisskirch & Alva, 2002), increase confidence and maturity (Tse, 1995), learn communication skills (Orellana, Dorner, & Pulido, 2003), gain a sense of self-efficacy (Kim et al., 2014), and interact positively with parents (Kim, Hou, Shen, et al., 2017) during the process. Adolescents who rate their experiences more negatively include those who have negative feelings and emotions (Tse, 1995), and feel their parents rely on them too much (Kim, Hou, Shen, et al., 2017; Kim, et al., 2014) throughout the language brokering process.

The goal of the current study is to test a predictor of both objective (i.e., translation frequency) and subjective, multi-faceted (i.e., multiple aspects of positive and negative) language brokering experiences. Measuring how often language brokering occurs without also investigating how adolescents feel about these experiences cannot give us a complete picture. Therefore, positive and negative language brokering experiences are considered

together with an objective measure of language brokering (i.e., translation frequency; Chao, 2006) in the present investigation.

Parent-adolescent Acculturation Status as a Predictor of Adolescent Language Brokering Experiences

Language brokering can be understood as a special form of interpersonal communication (Kam & Lazarevic, 2014a). Following Burleson's (2010) definition of interpersonal communication, language brokering can be defined as a complex, situated social process in which adolescent language brokers, their parents, and adults from the mainstream culture exchange messages to bridge language barriers and sustain life in the host country. Such a perspective suggests that language brokering is a situated process that may be impacted by contextual changes, such as changes in the cultural setting (e.g., acculturation), which is in turn embedded in a relational setting (i.e., parent-child acculturation status).

Language brokering is situated in cultural contexts. For example, Weisskirch (2005) found that, in early adolescence, Latino language brokers with low U.S. cultural and language orientation have low translation frequency, show high positive experiences of language brokering, and feel more obliged to translate. In addition, as traditional Mexican values emphasize interdependence among family members, adolescent language brokers who have a stronger inclination towards Mexican culture may be more willing to take responsibility to do language brokering for their parents (Roche, Lambert, Ghazarian, & Little, 2015; Weisskirch, 2017). Therefore, Mexican American adolescent language brokers' acculturation status, or their orientation towards Mexican and U.S. cultures, may impact their language brokering experiences.

Language brokering is also situated in family contexts. Most previous studies have examined the antecedents of language brokering experiences only from language brokers'

perspectives, measuring factors such as their individual resilience, their ethnic pride and involvement, or their own perception of parent-child alienation (Kam, 2009; Kim, Hou, & Gonzalez, 2017). However, parents in the language brokering process are not just passive receivers; instead, they team up with their adolescent children to interact with adults in the host society (Kam & Lazarevic, 2014b). The dyadic nature of language brokering suggests that studies should look at features of the parent-child relationship as predictors to better understand language brokering experiences. Moreover, according to family system theories (Cox & Paley, 2003), the whole (e.g., family subsystem, parent-child system) is greater than the sum of its individuals (e.g., mother, father, adolescent children). For example, when parents and children have the same or similar acculturation levels as each other, there is greater harmony in parent-adolescent relations (Schofield, Parke, Kim, & Coltrane 2008), resulting in better parent-adolescent interactions, such as the language brokering process. Therefore, features of the parent-child dyad, which are situated in family context, may have an influence on adolescent language brokering experiences.

Parent-child acculturation status may be a family-related, culturally inflected predictor of various language brokering experiences. According to the bi-dimensional perspective of acculturation (Berry, 1980; Berry, Phinney, Sam, & Vedder, 2006), acculturation includes two dimensions and multiple aspects: the extent to which individuals adapt their cultural behaviors, attitudes, beliefs, and language to those of the host society; and the extent to which individuals retain their heritage cultural behaviors, attitudes, beliefs, language, and identity. Identifying the joint acculturation status of Mexican American adolescent language brokers and their parents – in a way that measures each individual's Mexican and U.S. cultural orientations (behaviors, attitudes, and beliefs), languages, values, and identities (Birman, 2006) – may help predict variations in the experience of language brokering. Moreover, studying the acculturation status of parent-

child dyads, rather than solely adolescents' or solely parents' individual acculturation status, better captures the family/relational setting in which the language brokering process occurs. Thus, joint parent-adolescent acculturation status, which may be seen as an interplay of cultural and familial settings, is expected to explain the variations in language brokering experiences of Mexican American adolescents.

LATENT PROFILES OF PARENT-ADOLESCENT ACCULTURATION STATUS

Latent profile analysis is an ideal approach to use when measuring parent-adolescent acculturation for two reasons. First, by using latent profile analysis, studies that examine acculturation can take into consideration its bi-dimensionality and multiple domains (e.g., Schwartz et al., 2016), including: Mexican and U.S. cultural orientations, languages, values, and identities (Telzer, Yuen, Gonzales, & Fuligni, 2016). Second, Bámaca-Colbert and Gayles (2010) compared among different approaches to measuring parent-adolescent acculturation status among a sample of Mexico-origin families and found that the latent profile procedure best captured the interplay between acculturation indicators and the studied outcomes in both parents and children.

Cultural orientation and language use and proficiency are commonly used indicators to assess acculturation status (e.g., Kim, Wang, Chen, Shen, & Hou, 2015; Weaver & Kim, 2008). As pointed out by Knight and colleagues (2009), though, one's acculturation status goes beyond these indicators to include dimensions of specific values (e.g., family obligation) and self-concept dimensions such as ethnic identity. In particular, one of the most essential values in U.S. culture is independence/self-reliance (Knight et al., 2010), whereas family obligation is considered an important cultural value among people of Mexican origin (Fuligni, Tseng, & Lam, 1999). Moreover, ethnic identity is multi-dimensional and can include centrality, exploration, and resolution (Sellers, Rowley,

Chavous, Shelton, & Smith, 1997; Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004). Ethnic identity centrality refers to the extent to which individuals define themselves relative to their ethnicity (Sellers, et al., 1997); exploration refers to choosing among meaningful alternatives of ethnic identity; and resolution refers to one's commitment to his/her ethnic identity (Umaña-Taylor, et al., 2004). When individuals have higher ethnic identity centrality, exploration, and resolution, they are likely to retain their heritage culture. Therefore, the current study will incorporate both adolescent and parent reports of acculturation dimensions, including U.S. cultural orientation, language (English proficiency), and values (independence); and Mexican cultural orientation, language (Spanish proficiency), values (family obligation), and identity (ethnic identity centrality, exploration, and resolution) as indicators to generate parent-child acculturation status profiles.

Based on the above-mentioned indicators, and consistent with acculturation theory (Berry, et al., 2006), four types of individual acculturation profiles may emerge. The four individual acculturation profiles in the classical acculturation theory are (Telzer, 2010): *integrated* (high on both cultural orientations, values, and language), *assimilated* (high on host culture, low on heritage culture), *separated* (low on host culture, high on heritage culture), and *marginalized* (low on both cultures). However, researchers have found that all four conceptual profiles do not actually emerge in empirical studies using the person-centered approach. In fact, the *marginalized* profile seldom emerged or emerged at a low rate among ethnic minority adolescents and parents (e.g., Kim, et al., 2015). Moreover, past studies also found that the percentage of immigrant parents classified as *assimilated* is lower compared to those who show an *integrated* or *separated* profile (e.g., Kim, et al., 2015; Weaver & Kim, 2008), and that parents endorsed U.S. cultural practices less than heritage cultural aspects (e.g., U.S. vs. Hispanic practices; Schwartz, et al., 2016).

Additionally, past studies indicate that the *integrated* profile has more subtypes. In addition to the *integrated* profile, there is a *moderately integrated* profile, which displays a pattern similar to the *integrated* pattern, yet with lower scores on indicators of both U.S. culture and Mexican culture (Jang, Park, Chiriboga, & Kim, 2017; Schwartz & Zamboanga, 2008). Specifically, in immigrant families in which children serve as language brokers for their parents, these parents, in general, tend to have low proficiency in English, which may hinder them from gaining insight into the U.S. culture, resulting in parents scoring lower on U.S. aspects compared to their children. Therefore, it is proposed that the current study, which focuses on Mexican immigrant language brokering families, may uncover only three individual profiles (i.e., *integrated*, *assimilated*, and *separated*) among adolescents, whereas the majority of parents may be classified into the *separated* profile, with very few in the *moderately integrated* profile.

Based on the above-mentioned prediction for adolescent acculturation profiles (three) and parental acculturation profiles (two), there are potentially six parent-adolescent acculturation profiles that may exist in a sample comprised of English-limited parents and their children who language broker for them, namely: 1) adolescent *integrated*–parent *moderately integrated*, 2) adolescent *integrated*–parent *separated*, 3) adolescent *separated*–parent *moderately integrated*, 4) adolescent *separated*–parent *separated*, 5) adolescent *assimilated*–parent *moderately integrated*, and 6) adolescent *assimilated*–parent *separated*. These six profiles may have different implications for adolescent language brokering frequency and positive/negative experiences.

Parent-adolescent Acculturation Profiles and Language Brokering Experiences

Studies show that when parents are less proficient in English, adolescents are more frequently engaged in language brokering (e.g., Chao, 2006). Thus, parents with a

separated profile combined with adolescents in any profile may need frequent translation from their adolescent children; conversely, adolescents in any profile combined with a parent *moderately integrated* profile may translate relatively less frequent. Meanwhile, the adolescent *integrated*–parent *moderately integrated* profile and the adolescent *separated*–parent *separated* profile, the two matched profiles, may share more mutual understanding during the language brokering process as there is less discrepancy in acculturation between parents and adolescents, resulting in more positive and less negative language brokering experiences.

Furthermore, the adolescent *assimilated*–parent *separated* profile, which has gaps in both U.S. and Mexican dimensions between adolescent and parent, may have the most drastic parent-child discrepancy among all six profiles. The *assimilated* adolescents tend to be more adapted to the host country (Schwartz & Zamboanga, 2008), which may be helpful as they guide their family in interacting with the host society during the brokering process. However, language brokering is an activity that emphasizes parent-adolescent interdependence and brokers' obligation towards family (Kam & Lazarevic, 2014a), and therefore, *assimilated* adolescent brokers – who have higher endorsement of U.S. cultural norms (e.g., independence) and lower endorsement of Mexican cultural norms (e.g., family obligation, interdependence) – may be less willing to participate in language brokering (Weisskirch, 2017). Brokers in the *assimilated* profile may be met with less understanding of their needs for independence from a *separated* parent than from an *integrated* parent, leading to a less harmonious environment for language brokering. It seems plausible to expect that brokers in the adolescent *assimilated*–parent *separated* profile may have the lowest positive and highest negative language brokering experiences among all six proposed profiles.

In summary, it is hypothesized that adolescents with parents classified as *separated* may translate more frequently than adolescents whose parents are *moderately integrated*. Brokers in the adolescent *integrated*–parent *moderately integrated* profile and the adolescent *separated*–parent *separated* profile, as compared to other profiles, may experience more positive and less negative language brokering experiences. Relative to the two matched profiles, brokers in the adolescent *assimilated*–parent *separated* profile may have more negative and less positive language brokering experiences.

PRESENT STUDY

The current study will test the proposed model (see Figure 1) using two waves of data from Mexican American adolescents and their parents. The first goal of the study is to identify profiles of parent-adolescent acculturation in Mexican immigrant families based on indicators of parental and adolescent host and heritage cultural orientations, languages, and values. Although the mother-adolescent and father-adolescent dyads will be tested in separate latent profile analyses, I assume similar profiles will emerge across parent gender, as previous studies that tested parent-child acculturation profiles did not find significant differences across parent gender (Kim, et al., 2015; Weaver & Kim, 2008). The second goal of the study is to test the effect of parent-adolescent acculturation profiles on adolescents' language brokering frequency, positive language brokering experiences, and negative language brokering experiences.

Method

Participants

Data for the present study are drawn from a longitudinal study of 604 Mexican American families living in and around a metropolitan area in Central Texas. Families were eligible when: 1) both parents were of Mexican origin, 2) the family had a child in middle school, and 3) the child was responsible for translating for at least one parent. Data were collected when adolescents were in middle school (sixth through eighth grades). Their ages ranged from 11.08 to 15.29 (*M* age = 12.91 years, *SD* = 0.92; see Table 1 for more information). Slightly over half of the sample is female (*N* = 328, 54.3%). Most adolescent participants were born in the U.S. (*N* = 455, 75.3%;), whereas most of their parents were born in Mexico (mother: *N* = 592, 99.3%; father: *N* = 289, 98.6%). For adolescent participants who were born in Mexico, they had lived in the United States for 8.61 years on average (*SD* = 2.63). The median and mean household income fell within the range of $20,001 to $30,000 at both waves. The median highest education level of both fathers and mothers was some middle school/junior high school.

Procedure

At Wave 1, participants were recruited through public records, school presentations, and community recruitment in and around a metropolitan area in central Texas from 2012 to 2015. Research assistants distributed a letter describing the research project, along with a permission slip for parents. If families signed and returned the slip, an initial screening call was placed to collect information on the three criteria mentioned in the participant section. If the answers to these three questions were "yes", the family qualified to participate in the study and a family visit was scheduled. Bilingual and bicultural interviewers went on family visits, reading questions out loud to families and

entering participants' responses on a laptop computer. The questionnaires took approximately two hours to complete. Families received $60 compensation after completing the questionnaires. About one year later, families were approached to participate in the second wave of the study. If families agreed to participate in the Wave 2 study, bilingual and bicultural interviewers went on family visits for the second time. Compensation in the amount of $90 was given to families that completed the Wave 2 portion of the study.

Approximately 80% of families recruited for the Wave 1 data collection participated in the second wave of the study (N_{wave1} = 604, N_{wave2} = 483). Attrition analyses were conducted to compare families who participated in both waves of data collection and those who dropped out at Wave 2. Variables examined included adolescent age, gender, and nativity; mothers' and fathers' age and education level; and family income. We found that parents who had a higher education level (mother: $t(591) = 2.410$, $p = .016$; father: $t(150) = 3.680$, $p = .000$) were more likely to continue participating in the study.

MEASURES

All the questionnaires were prepared in both English and Spanish. The questionnaires were first translated to Spanish and then back-translated to English. Any inconsistencies between the original English version and the Spanish version were resolved by bilingual and bicultural research assistants through careful consideration of linguistic and cultural appropriateness of items.

U.S. and Mexican Orientations.

Following the bi-dimensional perspective of acculturation (Berry, et al., 2006), the Vancouver Index of Acculturation assesses parents' and adolescents' host and heritage cultural behaviors, attitudes, and beliefs (Ryder, Alden, & Paulhus, 2000). Adolescents,

mothers, and fathers answered 10 questions about their American cultural orientation and 10 questions about their Mexican cultural orientation on a five-point Likert scale (ranging from "1 = *strongly disagree*" to "5 = *strongly agree*"). Example items for American orientation included, "I often follow traditions of the American culture," "I often behave in ways that are typical of the American culture," and "I believe in mainstream American values." Items for Mexican orientation were identical, except that "Mexican" replaced the word "American." The Cronbach's alpha for American orientation ranged from .80 to .85 across informants, and the alpha for Mexican orientation ranged from .85 to .88 across informants (see Table 2).

English and Spanish Proficiency

Adolescents, mothers, and fathers self-reported their proficiency in reading, writing, speaking, and understanding English and Spanish on 5-point Likert scales (ranging from "1 = *not well*" to "5 = *extremely well*"). Prior research has found that self-report and objective measures of language proficiency are correlated (e.g., Dunn & Fox Tree, 2009). The Cronbach's alpha for English proficiency ranged from .83 to .90 across informants, and the alpha for Spanish proficiency ranged from .80 to .82 across informants (see Table 2).

Independence

To measure their U.S. value of independence, adolescents and their parents rated from "1 = *strongly disagree*" to "5 = *strongly agree*" their endorsement of the following statements: "People should be allowed to make their own decisions" and "People should learn how to take care of themselves and not depend on others." This two-item scale was adapted from a five-item independence and self-reliance subscale in the Mexican American Cultural Values Scale (Knight, et al., 2010). The subscale is related to a range of variables

such as perceived social support and adolescent-reported parental acceptance (e.g., Knight, et al., 2010). The two items are significantly positively correlated (*r*s range from .330 to .445, $p < .01$; see Table 2) across informants.

Family obligation

Adolescents, mothers, and fathers reported their attitudes on family obligation on a 13-item scale (Fuligni, et al., 1999). Parents and adolescents answered how important it is to them that the target adolescent treat parents with respect and provide current (e.g., help out around the house) and future (e.g., help parents financially in the future) support to the family. Responses ranged from 1 (*not at all important*) to 5 (*very important*). The family obligation measure has been validated for use with Mexican Americans and is related to a range of outcomes such as academic adjustment (e.g., study time) and family cohesion (e.g., Fuligni, et al., 1999). The Cronbach's alpha ranged from .77 to .88 across informants (see Table 2).

Ethnic Identity Centrality, Exploration, and Resolution

Ethnic identity centrality, exploration, and resolution were assessed for adolescents, mothers, and fathers using a self-report, five-point scale (ranging from "1 = *strongly disagree*" to "5 = *strongly agree*"). The centrality measure was adapted from an 8-item centrality subscale in the Multidimensional Inventory of Black Identity Scale (Sellers, et al., 1997). The exploration and resolution measures were adapted from an Ethnic Identity Scale (Umaña-Taylor, et al., 2004), which originally had nine items for each dimension. In the current study, participants reported on the adapted measures, each of which has three items. Items were chosen based on high factor loading and face validity. A sample item for ethnic identity centrality is "being Mexican is an important part of who I am"; an item for ethnic identity exploration is "I have often done things that will help me understand my

Mexican background better"; and an item for ethnic identity resolution is "I know what being Mexican means to me." All three measures have been validated for use with Mexican Americans and are related to variables such as academic attitudes, self-esteem, and family ethnic socialization (e.g., Fuglini, Witkow, & Garcia, 2005; Umaña-Taylor, et al., 2004). The Cronbach's alpha for the ethnic identity centrality subscale ranged from .60 to .66 across informants, the alpha for the exploration subscale ranged from .81 to .85 across informants, and the alpha for the resolution subscale ranged from .85 to .91 across informants (see Table 2).

Adolescent Language Brokering Frequency

Adolescent language brokers were asked how often they translate for their mother and father, respectively, on a scale ranging from (1) *a few times a year* to (2) *a few times every 3 to 6 months* to (3) *a few times a month* to (4) *a few times a week* to (5) *every day*.

Adolescent Subjective Language Brokering Experiences

Adolescent language brokering experiences include four positive dimensions and four negative dimensions. Specifically, five dimensions were taken from subscales of the Adolescent Subjective Language Brokering Experiences Scale (Kim, Hou, Shen, et al., 2017), including benefits of language brokering, efficacy of language brokering, positive parent-child relationships tied to language brokering, negative feelings about language brokering, and parental dependence tied to language brokering. This scale is a five-point Likert scale (ranging from "1 = *strongly disagree*" to "5 = *strongly agree*"). The *benefits* subscale contains 7 items. Example items are "When I translate for my parent it strengthens my Spanish skills," "I feel independent and mature when I translate for my parent," and "Because I translate for my parent, I have had to learn how to communicate effectively." The *efficacy* subscale contains four items, including "I am good at translating for my

parent" and "I translate correctly for my parent." The *positive parent-child relationships* subscale is comprised of four items. Example items include "I understand my parent better because I translate for her/him" and "I translate correctly for my parent." The *negative feelings* subscale consists of four items, including "I become impatient when my parent asks me to translate for her/him" and "I would rather do other things than translate for my parent." The *parental dependence* subscale consists of four items. An example item is, "I feel I am my parent's protector because I translate for her/him."

Language brokering stress was measured by a 6-point Likert scale (ranging from "0 = *I don't translate this to my mother/father*" to "1 = *not stressful*" to "5 = *extremely stressful*"). Adolescents were asked how stressful they felt when they perform 11 different kinds of translation tasks, including homework, bills, legal document, etc.

Additionally, *positive emotions* (i.e., how often do you feel enthusiastic, excited, happy when you translate from English to Spanish for your mother/father) and *negative emotions* (i.e., angry, annoyed, sad, embarrassed) associated with language brokering were tested using a seven-point Likert scale (ranging from "1 = *never*" to "7 = *always*"). These subscales have been found to be invariant across adolescent gender, nativity, and translation frequency, and have shown predictive validity for adolescent resilience, life meaning, and depressive symptoms among a Mexican American sample (Kim, Hou, Shen, et al., 2017). The Cronbach's alpha for these eight subscales ranged from .59 to .90 for mothers and from .64 to .92 for fathers (see Table 3 for Cronbach's alpha for each subscale across parent gender).

Covariates

Previous studies have found that different characteristics of adolescent language brokers (e.g., age, gender, nativity, SES) are also related to language brokering

experiences. For example, girls (vs. boys; Villanueva & Buriel, 2010) and older (vs. younger; Hua & Costigan, 2012) adolescents might engage in the language brokering process more frequently. Language brokers who are foreign-born (vs. U.S.-born) feel more positively towards language brokering (Niehaus & Kumpiene, 2014). Although years of living in the U.S. may be another covariate to include, this variable was excluded in the model as only 24.7% of the adolescent participants were born in Mexico, and the majority lived in the United States almost all their lives, or 8.61 years on average (*SD* = 2.63). Moreover, language brokering children from a low SES family tend to feel more distress during the brokering process (Jones, Trickett, & Birman, 2012). Thus, adolescent language brokers' age, gender, nativity, and family SES will be controlled when the proposed model is tested.

Adolescent age will be directly calculated by subtracting adolescents' birth dates from the dates that they were interviewed. Moreover, adolescents reported their gender and nativity (i.e. foreign-born, U.S.-born). Fathers and mothers answered questions on family income and child translation frequency. Family income was assessed in $10,000 increments using an 11-point scale, ranging from "1 = *$10,000 or under*" to "11 = *$110,001 or more*." In the analyses of the current study, family income will be assessed by taking the mean of father and mother reports, and will be used as a covariate in all moderation models. Both mothers and fathers reported their highest level of education obtained on a scale ranging from "1 = *no formal schooling*," "2 = *some elementary school*," "3 = *finished elementary school*," "4 = *some middle school/junior high school*," "5 = *finished middle school/junior high school*," "6 = *some high school*," "7 = *finished high school*," "8 = *finished technical or vocational training after high school*," "9 = *finished community college degree (AA)*," "10 = *finished university/bachelor's degree (BA/BS)*," to "11 = *finished a graduate degree (master's degree, medical, etc.)*."

ANALYTICAL PLAN

All analyses were conducted using Mplus 7 with the full information maximum likelihood (FIML) estimation method of handling missing data, which allows complete usage of all available data (Muthén & Muthén, 1998–2012). The proposed model was examined in four steps.

First, I used both adolescent-report and parent-report Mexican orientation, U.S. orientation, Spanish proficiency, and English proficiency, independence, and ethnic identity centrality/exploration/resolution as indicators to identify parent-adolescent acculturation profiles. To determine the optimal number of profiles, several indices were used, including Akaike information criterion (AIC), Bayesian information criterion (BIC), the sample size-adjusted BIC (ABIC), and a log-likelihood-based test (i.e., Lo-Mendel-Rubin (LMR) test; Nylund, Asparouhov, & Muthén, 2008). Statistically, the *k*-profile solution is considered the best solution, when the solution has lower AIC, BIC, and ABIC as compared to other solutions, and with a significant LMR ($p < .05$), suggesting that the *k*-profile solution is significantly better than the previous (*k-1*) solution (Nylund, Asparouhov, & Muthén, 2008). Because adolescents reported their language brokering experiences for their mother and father separately, I conducted latent profile analyses and tested the model separately for mother- and father-adolescent dyads.

In the next step, the effects of discrepancy profiles on adolescent language brokering experiences were tested using structural equation modeling. To determine whether the data fit the models well, several model fit indices were used (e.g., chi-square; root-mean-square-error-of-approximation, RMSEA; 90% confidence interval of the RMSEA; comparative fit index, CFI; and standardized root mean square residual, SRMR; Hooper, Coughlan, & Mullen, 2008). Before exploring the relations between discrepancy profiles and adolescent language brokering experiences, I tested two measurement models.

The first measurement model measures positive experiences of language brokering, including *positive emotions*, *benefits*, *efficacy*, and *positive parent-child relationship* subscales. The second measurement model measures the negative experiences of language brokering, including *negative emotions*, *negative feelings*, *brokering stress*, and *parental dependence* subscales.

In the third step, I tested the effects of parent-adolescent acculturation discrepancy profiles (wave 1) on adolescent language brokering frequency, positive experiences, and negative experiences (wave 2, controlling for wave 1). Adolescent age, adolescent gender, adolescent nativity, household income (parent report), and parental education level (parent report) were entered as covariates in this step.

Additionally, I examined whether there were any differences in profile distribution between mother-adolescent dyads and father-adolescent dyads. I also examined whether adolescent gender differences emerged in profile distribution. If there was a significant difference, I would conduct further multinomial logistic regressions to analyze how profile distribution differed across parent or adolescent gender.

Results

PARENT-ADOLESCENT ACCULTURATION PROFILES

Based on fit indices (Table 4) and evaluation of substantive meaning of acculturation profiles, I found that the optimal solution was the four-profile solution for mother-adolescent dyads and the three-profile solution for father-adolescent dyads. The means on the indicators of each profile, and ANOVA results of mean differences on the specific indicators by profile membership, are displayed in Table 2. Figure 2 and Figure 3 present a graphical summary of the mother-adolescent (Figure 2a) and father-adolescent acculturation profiles (Figure 2b). Additionally, I calculated the means of Mexican and U.S. cultural dimensions for each reporter and plotted the simplified version of the profiles for mother-adolescent dyads (Figure 3c) and father-adolescent dyads (Figure 3d). The indicators' mean differences among profiles are presented in Table 5 (for mother-adolescent dyads) and Table 6 (for father-adolescent dyads). As the current sample consists of Mexican immigrant families with an adolescent who serves as a broker for at least one parent, parental English proficiency was consistently low (mother: $Mean = 1.56, SD = 0.72$; father: $Mean = 1.82, SD = 0.86$), with no significant difference across profiles for mothers ($F(3,584) = 0.28, p = 0.837$) and fathers ($F(2, 283) = 0.21, p = 0.810$).

Mother-Adolescent Acculturation Profiles

Four profiles emerged for mother-adolescent acculturation status: adolescent *integrated*–mother *separated* ($N = 117, 19.9\%$), adolescent *moderately assimilated*–mother *moderately separated* ($N = 55, 9.4\%$), adolescent *moderately integrated*–mother *moderately separated* ($N = 290, 49.3\%$), and adolescent *moderately integrated*–mother *separated* ($N = 126, 21.4\%$).

Relative to other profiles, the adolescent *integrated*–mother *separated* profile was characterized by higher scores on all indicators for both Mexican culture (i.e., Mexican orientation, Spanish proficiency, ethnic identity centrality/exploration/resolution, family obligation) and U.S. culture (i.e., U.S. orientation, English proficiency, and individualism) among adolescents, and higher scores on Mexican culture indicators with lower U.S. culture indicators among mothers. The smallest profile, the adolescent *moderately assimilated*–mother *moderately separated* profile, was characterized by moderately higher scores on aspects of U.S. culture compared to Mexican culture among adolescents, and moderately higher scores on aspects of Mexican culture and moderately lower on aspects of U.S. culture aspects among mothers. The largest group, the adolescent *moderately integrated*–mother *moderately separated* profile, had moderately higher scores on both Mexican and U.S. culture indicators for adolescents, and moderately higher scores on Mexican culture indicators with moderately lower U.S. culture indicators for mothers. The adolescent *moderately integrated*–mother *separated* profile showed an adolescent pattern similar to that of the previous profile, where adolescents were also considered *moderately integrated*, and a maternal pattern similar to the first profile, where mothers were also classified as *separated*.

Father-Adolescent Acculturation Profiles

Three profiles emerged for father-adolescent acculturation status: adolescent *integrated*–father *moderately separated* ($N = 66$, 23.1%), adolescent *moderately assimilated*–father *moderately separated* ($N = 36$, 12.6%), and adolescent *moderately integrated*–father *moderately separated* ($N = 184$, 64.3%). For all three profiles, fathers displayed a consistent pattern of moderately higher scores on Mexican culture indicators and moderately lower U.S. culture indicators, which was considered *moderately*

separated. For adolescents, patterns that were similar to those named in the mother-adolescent acculturation profiles were named consistently. The three profiles that emerged for father-adolescent dyads were similar to the first three profiles for the mother-adolescent dyads, except that *integrated* adolescents combined with *separated* mothers, versus with *moderately separated* fathers.

Altogether, we found four mother-adolescent acculturation profiles and three father-adolescent acculturation profiles that took into account adolescent and parental Mexican and U.S. orientation, Spanish and English proficiency, key cultural values (i.e., family obligation, independence), and ethnic identity (i.e., centrality, exploration, resolution). Particularly, the adolescent *moderately assimilated*–parent *moderately separated* profile was the most common profile to emerge for both mother-adolescent and father-adolescent dyads, whereas the adolescent *moderately assimilated*–parent *separated* profile only emerged for mother-adolescent dyads.

DYADIC ACCULTURATION PROFILES AND ADOLESCENT LANGUAGE BROKERING EXPERIENCES

Before testing the structural model, I tested the measurement component to ensure proper fit for the two latent variables (i.e., positive language brokering experiences and negative language brokering experiences) in both models: brokering for mother and brokering for father. Measurement models did not converge when parental dependence was considered an indicator for negative language brokering experiences, regardless of parent gender. Previous studies have suggested that parental dependence may be a concept of mixed effects, with a moderate level of dependence enhancing adolescent positive life experiences and over-dependence (i.e., parentification) resulting in adolescent burden

(Kim, Hou, Shen, et al., 2017; Trickett & Jones, 2007). Therefore, parental dependence was considered as an individual outcome variable, instead of an indicator for adolescent negative language brokering experiences, in the path model.

The brokering for mother measurement model exhibits adequate model fit when *parental dependence* was not considered an indicator of negative language brokering experiences, $\chi^2(55, N = 482) = 170.111, p < .001$; CFI = .919; RMSEA = .066 [90% CI = .055, .077]; SMRM = .077. For positive language brokering experiences, standardized coefficients are as follows: *benefits* (.71), *efficacy* (.50), *positive parent-child relationships* (.68), and *positive emotions* (.32). Standardized coefficients for *negative language brokering experiences* are as follows: negative feelings (.38), negative emotions (.81), and brokering stress (.28).

Similarly, the measurement component for the brokering for father model shows adequate model fit when *parental dependence* was not considered an indicator of negative language brokering experiences, $\chi^2(55, N = 406) = 164.578, p < .001$; CFI = .926; RMSEA = .070 [90% CI = .058, .062]; SMRM = .081. For positive language brokering experiences, standardized coefficients are as follows: *benefits* (.82), *efficacy* (.56), *positive parent-child relationships* (.73), and *positive emotions* (.30). Standardized coefficients for *negative language brokering experiences* are as follows: negative feelings (.42), negative emotions (.76), and brokering stress (.53).

Mother-Adolescent Dyads

The structural model for mother-adolescent dyads (Figure 4) exhibits good model fit, $\chi^2(135, N = 604) = 288.456, p < .001$; CFI = .914; RMSEA = .043 [90% CI = .036, .050]; SRMR = .043. The reference group for the mother-adolescent acculturation profiles was rotated to get all possible comparisons. Results show that relative to the adolescent

integrated–mother *separated* profile, the other three profiles are negatively associated with positive language brokering experiences (the adolescent *moderately assimilated*–mother *moderately separated* profile: β = -.179, p = .004; the adolescent *moderately integrated*–mother *moderately separated* profile: β = -.242, p < .001; and the adolescent *moderately integrated*–mother *separated* profile: β = -.159, p = .017). Moreover, the adolescent *moderately integrated*–mother *moderately separated* profile is negatively associated with language brokering maternal dependence as compared to the adolescent *integrated*–mother *moderately separated* profile (β = -.123, p = .025). Yet, there is not a significant difference in language brokering frequency and negative language brokering experiences among the mother-adolescent acculturation profiles. Additionally, none of the covariates, except adolescent gender and the corresponding wave 1 language brokering experiences, was associated with wave 2 language brokering experiences. Specifically, female brokers were likely to report more negative brokering experiences as compared to their male counterparts (β = .176, p = .004).

Father-Adolescent Dyads

The structural model for father-adolescent dyads (Figure 5) exhibits good model fit, χ^2 (130, N = 604) = 276.941, p < .001; CFI = .930; RMSEA = .043 [90% CI = .036, .050]; SRMR = .049. Similarly, the reference group for the father-adolescent acculturation profiles was rotated to get all possible comparisons. Results show that relative to the adolescent *integrated*–father *moderately separated* profile, the other two profiles are negatively associated with positive language brokering experiences (the adolescent *moderately assimilated*–father *moderately separated* profile: β = -.210, p = .001; the adolescent *moderately integrated*–mother *moderately separated* profile: β = -.218, p < .001). Yet, such differences were not found for language brokering frequency, negative

language brokering experiences, nor language brokering paternal dependence. Additionally, none of the covariates, except the corresponding wave 1 language brokering experiences, was related to wave 2 language brokering experiences.

SENSITIVITY ANALYSIS

As for dyadic acculturation profile distributions across parent gender, most adolescents (73.68%) were in the same mother-adolescent and father-adolescent profiles. Chi-square difference tests found that there were significant associations between dyadic acculturation profiles of mother-adolescent and father-adolescent dyads, χ^2 (6) = 884.96, $p < .001$.

As for the profile distributions across adolescent gender, chi-square difference tests showed that adolescent gender was not significantly related to mother-adolescent acculturation profiles, χ^2 (3) = 5.36, $p = .148$; and father-adolescent acculturation profiles, χ^2 (2) = 2.40, $p = .301$.

Discussion

Language brokering is a situated process enacted in cultural and relational settings (Kam & Lazarevic, 2014a). During this process, family members are placed in a situation where they adapt to the host culture (i.e., U.S. orientation, English proficiency, independence), while also maintaining their heritage culture (i.e., Mexican orientation, Spanish proficiency, family obligation, ethnic identity centrality/exploration/resolution). Meanwhile, parents and children, both working actively in the brokering process, need to have a better understanding of each other so that their positive dyadic relations may create a harmonious milieu in which the language brokering process takes place. By taking a dyadic perspective and exploring parent-adolescent acculturation profiles in a Mexican immigrant sample, the current study identified four mother-adolescent acculturation profiles (i.e., adolescent *integrated*–mother *separated*, adolescent *moderately assimilated*–mother *moderately separated*, adolescent *moderately integrated*–mother *moderately separated*, and adolescent *moderately integrated*–mother *separated*) and three father-adolescent acculturation profiles (i.e., adolescent *integrated*–father *moderately separated*, adolescent *moderately assimilated*–father *moderately separated*, and adolescent *moderately integrated*–father *moderately separated*). Among the profiles that emerged, the adolescent *integrated*–parent *(moderately) separated* profiles were found to be the most adaptive during the language brokering process, as these related to more positive subjective language brokering experiences, compared to other profiles.

Dyadic Acculturation Profiles

Instead of studying adolescent and parental acculturation status separately (Telzer, 2010), the current study takes a dyadic perspective and incorporates the bi-dimensional perspective of acculturation and multiple domains of acculturation indicators to study

parent-adolescent acculturation profiles as joint constructs. Using a person-center approach to measure acculturation profiles can be more advantageous than using a variable-center approach. For example, two individuals that have similar scores on U.S. cultural aspects may be characterized as belonging to two different profiles (i.e., a *moderately integrated* profile vs. a *moderately assimilated* profile). A variable-center approach that only examines U.S. cultural aspects may treat these two individuals similarly, therefore glossing over the qualitative differences where similar U.S. cultural aspects can combine with high (*moderately integrated*) as well as low (*moderately assimilated*) levels of Mexican cultural aspects.

Three adolescent individual acculturation types within the dyadic profiles emerged, including *integrated* (high on Mexican and U.S. cultural aspects), *moderately integrated* (moderately high on Mexican and U.S. cultural aspects), and *moderately assimilated* (moderately low on Mexican cultural aspects, moderately high on U.S. cultural aspects). Findings were consistent with previous studies showing that, when most adolescents lived in the host society from birth or from their early school years, they were more likely to become *integrated* or *assimilated* (e.g., Berry, et al., 2006). However, adolescents in this sample were *moderately assimilated* rather than *assimilated* because language brokers are linguistic and cultural mediators (Kam, 2011; Jones, Trickett, & Birman, 2012). On the one hand, being exposed to the heritage culture and using the heritage language more frequently than non-brokers (e.g., Chao, 2006), may make adolescent language brokers unlikely to score very low on Mexican culture indicators. On the other hand, serving as language brokers instills a sense of interdependence, as opposed to independence, and occupies some time that they might otherwise have used to interact with peers in the mainstream culture (Kam & Lazarevic, 2014a), resulting in moderately high scores on U.S. culture indicators among these Mexican American adolescents. Although previous studies

have usually found a substantial number of U.S.-born/educated *separated* (high on Mexican cultural aspects, low on U.S. cultural aspects) adolescents (e.g., Berry, et al., 2006), such a finding was not replicated here. It is possible that being language brokers requires adolescents to be somewhat proficient in English, and to understand to some extant the U.S. culture, so that they can guide their parents in interactions with the U.S. society (Roche, Lambert, Ghazarian, & Little, 2015). Thus, the basic requirements of being a language broker have already placed adolescents in a position in which they are likely to show moderately high to high scores on the U.S. cultural indicators assessed in the study.

Two maternal individual acculturation types within the dyadic profiles emerged, including *separated* (high on Mexican cultural aspects, low on U.S. cultural aspects) and *moderately separated* (moderately high on Mexican cultural aspects, low on U.S. cultural aspects); only one paternal individual acculturation type – *moderately separated* – emerged. As mentioned in the results section, both mothers and fathers in the current sample reported low proficiency in English, which is consistent with previous findings (e.g., Chao, 2006; Stepler & Brown, 2015). The low English proficiency is a key indicator of lower scores on U.S. culture, whereas high parental Spanish proficiency is an indicator of higher scores in Mexican cultural domains. Thus, only *separated* or *moderately separated* profiles emerged among the parents sampled in this study.

Consistent with previous studies, the *marginalized* profile, which is usually absent in immigrant samples (e.g., Nieri, Lee, Kulis, & Marsiglia, 2011; Salas-Wright, Clark, Vaughn, & Córdova, 2015), did not emerge. Relatedly, no *assimilated* parents were found in the current sample, which is consistent with the fact that immigrant parents who need language brokers usually have lower scores on U.S. cultural orientations and values (e.g., Schwartz, et al., 2016) and are less proficient in English (Stepler & Brown, 2015).

Jointly, four profiles for mother-adolescent dyads and three profiles for father-adolescent dyads emerged in the results. Among all profiles, three out of four mother-adolescent dyads and two out of three father-adolescent dyads had the adolescent classified as either *integrated* or *moderately integrated*. This was true for 90.6% of mother-adolescent dyads and 87.4% of father-adolescent dyads. These results are consistent with previous findings that most U.S.-born/educated adolescents identified themselves as having an *integrated* (e.g., Berry, et al., 2006) or *moderately integrated* profile. The adolescent *moderately assimilated*–parent *moderately separated* profile is the smallest profile across mother-adolescent (9.4%) and father-adolescent (12.6%) dyads. Moreover, mother-adolescent and father-adolescent dyads in the same family were likely to be consistent. No gender difference of profile distribution in either mother-adolescent dyads or father-adolescent dyads was found. The lack of any gender difference in profile distribution may indicate that dyadic acculturation status holds steady across parent gender and adolescent gender.

DYADIC ACCULTURATION PROFILES AND ADOLESCENT LANGUAGE BROKERING EXPERIENCES

By testing whether parent-adolescent acculturation profiles influence adolescent language brokering experiences, I found that dyadic acculturation status is a precursor to adolescents' positive subjective language brokering experiences. Specifically, the adolescent *integrated*–parent *(moderately) separated* profile is associated with more positive brokering experiences as compared to adolescent *moderately assimilated*–parent *moderately separated* and adolescent *moderately integrated*–parent *(moderately) separated* profiles. However, no parent-adolescent *matched* profile emerged to relate to more positive language brokering experiences. Results indicate that when parents were consistently *moderately separated* or *separated* (moderately high or high on Mexican

culture aspects, low on U.S. culture aspects) and combined with *integrated* adolescents, who had the highest scores on all indicators of both U.S. and Mexican culture dimensions in the study, adolescents had better language brokering experiences. Findings replicated results in previous studies showing that *integrated* individuals (vs. *moderately integrated* or *moderately assimilated* individuals), who adapt to the host culture while maintaining their heritage culture well, have better developmental outcomes (e.g., Schwartz et al., 2016).

Moreover, the results of the measurement model suggest that parental dependence is a language brokering dimension of complexity, since it fits well under the latent constructs of neither positive nor language brokering experiences. Such a finding is consistent with previous studies showing that parental dependence is a concept of mixed effects: a moderate level of parental dependence may enhance adolescent life meaning (Kim, Hou, Shen, et al., 2017), whereas an overreliance of parents on children may relate to adolescents feeling a sense of burden (Trickett & Jones, 2007; Wu & Kim, 2009). The current study found that, compared to those in the adolescent *moderately integrated*–mother *moderately separated* profile, those in the adolescent *integrated*–mother *moderately separated* profile reported moderately higher scores on language brokering maternal dependence. This finding may be explained by the fact that as *integrated* adolescents (vs. *moderately integrated* adolescents) team up with *separated* parents, who endorse higher interdependence (as compared to *moderately integrated* parents), such adolescents may be more trusted and relied on by parents during the brokering process. However, as parental dependence is a concept of mixed effects, conclusions about which profile (adolescent *moderately integrated*–mother *moderately separated* profile vs. adolescent *integrated*–mother *moderately separated* profile) is more adaptive cannot be made based on the language brokering parental dependence results. Future studies are

encouraged to take into consideration adolescent outcomes to answer the question of whether parental dependence in the studied sample should be considered moderate (associated with positive outcomes) or extreme (associated with negative outcomes).

Dyadic acculturation status was not associated with adolescent language brokering frequency (objective experiences) in the current study. As mentioned before, due to the current study sample – Mexican immigrant language brokering families – parents have consistently low English proficiency, resulting in only *separated* or *moderately separated* parent profiles emerging. Low English proficiency builds a language barrier between parents and the outside world, which hinders the adaptation process of parents and creates a need for adolescents to serve as language brokers.

As with language brokering frequency, negative language brokering experiences of adolescents were not associated with the dyadic acculturation profiles. In other words, the parent-adolescent acculturation profiles that emerged in the current study may not explain the variation in negative brokering experiences. There may be two reasons for this. First, according to my hypothesis, brokers in an adolescent *assimilated*–parent *separated* profile would have experienced the least adaptive language brokering process. However, instead of the hypothesized profile, the adolescent *moderately assimilated*–father *moderately separated* profile emerged. Adolescent brokers in this profile still endorsed a moderate level of family obligation, whereas their parents endorsed a moderate level of independence. Such results suggest that there is a mutual understanding among these parent-adolescent dyads, though such *moderately assimilated* adolescents may be less willing to serve as language brokers (Weisskirch, 2017). Second, Mexican American adolescent language brokers generally reported their language brokering experiences to be more positive and less negative across previous studies (e.g., Chao, 2006; Kam & Lazarevic, 2014b). As Mexican language brokers tend to experience language brokering

less negatively overall, there may not be much variation in the negative brokering experiences that can be explicated by parent-adolescent acculturation status.

CONTRIBUTIONS

The current study contributes to the language brokering literature both theoretically and practically. The current study empirically supported the theory that language brokering is a special form of interpersonal communication (Kam & Lazarevic, 2014a), which can be influenced by its cultural and relational setting (Burleson, 2010). Results show that the combined parent-adolescent acculturation status is the specific factor that captures both the cultural setting and the relational setting. Especially, the adolescent *integrated*–parent *(moderately) separated* profile is considered the most adaptive in terms of its association with positive language brokering experiences. Practically, such findings shed light on possible intervention programs, providing malleable approaches to changing parent-child acculturation status in order to improve brokering-related experiences, which ultimately can enhance the educational and psychosocial outcomes of Mexican American adolescent language brokers (e.g., Shen, Tilton, & Kim, 2017). The current study has found the most adaptive dyadic acculturation profile: the adolescent *integrated*–parent *(moderately) separated* profile. By providing programs that increase Mexican American adolescent language brokers' understanding of both heritage and host culture attitudes, practices, beliefs, values, and linguistic ability as well as ethnic identity, we may help ensure that adolescents have more positive experiences during the language brokering process.

Moreover, the current study contributes to the parent-child acculturation status literature theoretically. First, studies of acculturation may benefit from thinking about relationships. Taking a dyadic perspective and using a person-centered approach, the current study measured joint parent-adolescent acculturation profiles, which allowed

profile naming to be consistent on direction and magnitude. Second, studies of acculturation may also need to consider the context in which dyadic relations occur. For example, in the current study, Mexican American language brokering families are the context in which parent-adolescent acculturation occurs. The dyadic profiles that emerged in the current study may not be replicated in a sample of immigrant families more generally, whose race/ethnicity and language proficiency in English are more diverse.

LIMITATIONS AND FUTURE STUDIES

The current study has several limitations. First, among all the profiles that emerged, parental profiles were identified as either *separated* or *moderately separated*. The less variant parental profiles can be attributed to the homogeneity of the current sample, as parents' low English proficiency was an inclusion criteria for the study. Future research may sample immigrant families with adolescents who are not language brokers to capture other combinations of parent-adolescent acculturation profiles, to have more variability in parental profiles. With more diverse parental profiles, studies may be able to empirically examine whether taking a dyadic approach (parent-adolescent acculturation profiles) in studying acculturation status is meaningful.

Although the current study examined the parent-adolescent acculturation status as an important precursor to language brokering experiences, it did not examine the impact of language brokering experiences on dyadic acculturation profiles. Research has demonstrated that by doing language brokering for parents, adolescent language brokers may become more integrated (e.g., Acoach & Webb, 2004; Wisskirch et al., 2011). Future studies may need to take into consideration the directionality of the relations between parent-adolescent acculturation status and adolescent language brokering experiences.

Moreover, the current study takes a cross-sectional approach to studying the parent-adolescent acculturation process only at wave 1 of a two-wave longitudinal study. As an individual's acculturation process is time-variant (Telzer, 2010), it is also important to study stability and change in the parent-adolescent acculturation process. Future researchers are encouraged to leverage all waves of data collection available and use latent transition analyses to study the parent-adolescent acculturation profiles over time.

Lastly, the current study sampled Mexican-American adolescent language brokers and their immigrant parents from a particular area in Central Texas. Findings may not generalize to brokers coming from different ethnic backgrounds or residing in other places in the United States. Future research can sample immigrant language brokering families with more diverse ethnic backgrounds or who reside in different locations to capture other combinations of parent-adolescent acculturation profiles, and study the relation between those profiles and adolescent language brokering experiences.

Conclusion

Taking a dyadic perspective (i.e., examining mother-adolescent and father-adolescent dyads), the current study considered indicators of acculturation from a bi-dimensional perspective (i.e., host and heritage culture) and across multiple domains (i.e., culture orientation, language proficiency, key culture values, and ethnic identity) to identify distinct parent-adolescent acculturation profiles among Mexican immigrant families with adolescent language brokers. Results suggest that parent-adolescent acculturation status is one precursor of positive language brokering experiences that incorporates both cultural and relational settings. Consistently across mother-adolescent and father-adolescent dyads, the adolescent *integrated*–parent *(moderately) separated* profile is the most adaptive for the language brokering process. The findings further indicate that promoting better dyadic acculturation experiences within Mexican immigrant language brokering families may be a way to improve adolescent experiences of language brokering, which may, in turn, lead to better developmental outcomes for these brokers. Moreover, the current study highlights the need to consider the situational context (i.e., language brokering) in understanding family members' acculturation status. The current study could not demonstrate strong empirical support that a dyadic acculturation perspective which takes into account both the parent and adolescent acculturation status is more advantageous because of the homogeneity of the current sample (i.e., a sample of language brokering families with all parents identified as *separated* or *moderately separated* profiles). Future studies may use a non-brokering sample to capture more nuanced parental acculturation profiles that combines with variability we found in adolescent acculturation profiles, for stronger empirical support on the advantages of taking the dyadic perspective in studying acculturation status among family members.

Tables

Table 1. The frequency table of adolescent age (N = 604).

Age (years old)	Percentage	Counts
[11, 12)	18.87%	114
[12, 13)	36.26%	219
[13, 14)	29.97%	181
[14, 15)	14.40%	87
>=15	0.50%	3

Table 2. The Cronbach's alpha for scales of profile indicaotrs at wave 1.

	U.S. Orientation		Mexican Orientation	
	α	*N*	α	*N*
Mother	0.83	534	0.88	557
Father	0.80	262	0.85	282
Adolescent	0.85	576	0.88	584
	English Proficiency		Spanish Proficiency	
	α	*N*	α	*N*
Mother	0.87	591	0.82	590
Father	0.90	285	0.80	287
Adolescent	0.83	598	0.80	592
	Independence (2 items)		Family Obligation	
	Correlations	*N*	α	*N*
Mother	.433**	587	0.77	553
Father	.445**	286	0.80	276
Adolescent	.330**	597	0.88	576
	Ethnic Identity Centrality		Ethnic Identity Exploration	
	α	*N*	α	*N*
Mother	0.60	568	0.85	578
Father	0.65	274	0.84	276
Adolescent	0.66	594	0.81	593
	Ethnic Identity Resolution			
	α	*N*		
Mother	0.88	579		
Father	0.91	277		
Adolescent	0.85	596		

Note. ** indicates the correlation is significant at the 0.01 level (2-tailed).

Table 3. The Cronbach's alpha for scales of adolescent-report language brokering experiences.

	LB Benefits		LB Efficacy	
	α	*N*	α	*N*
Wave 1				
Mother	0.79	585	0.83	593
Father	0.88	516	0.87	523
Wave 2				
Mother	0.84	476	0.84	472
Father	0.91	411	0.90	417
	LB Positive Parent-child Relationships		Parental Dependence	
	α	*N*	α	*N*
Wave 1				
Mother	0.82	591	0.63	586
Father	0.86	522	0.70	516
Wave 2				
Mother	0.87	476	0.65	471
Father	0.89	412	0.71	411
	LB Negative Feelings		LB Stress	
	α	*N*	α	*N*
Wave 1				
Mother	0.72	594	0.88	582
Father	0.77	523	0.91	536
Wave 2				
Mother	0.75	475	0.90	466
Father	0.78	415	0.92	420
	LB Positive Emotions		LB Negative Emotions	
	α	*N*	α	*N*
Wave 1				
Mother	0.67	596	0.81	601
Father	0.74	548	0.90	545
Wave 2				
Mother	0.68	477	0.85	480
Father	0.78	436	0.90	435

Note. LB = language brokering.

Table 4. Latent profile analysis fit indices and statistics.

Number of profiles	-2 Log Likelihood	AIC	BIC	ABIC	LMRT *p* value	Entropy
Mother-Adolescent Acculturation Profiles						
1	21720.532	21792.533	21951.061	21836.77	--	--
2	21062.7	21172.7	21414.897	21240.285	0.0061	0.723
3	20696.006	20844.007	21169.871	20934.94	0.0763	0.738
4	**20351.33**	**20537.329**	**20946.861**	**20651.61**	**0.0219**	**0.810**
5	20163.866	20387.865	20881.065	20525.494	0.3190	0.850
6	20020.776	20282.776	20859.645	20443.753	0.7267	0.847
Father-Adolescent Acculturation Profiles						
1	16158.724	16230.723	16389.252	16274.961	--	--
2	15494.39	15604.391	15846.587	15671.976	0.0059	0.727
3	**15136.306**	**15284.305**	**15610.17**	**15375.238**	**0.0556**	**0.851**
4	14950.166	15136.166	15545.699	15250.447	0.1672	0.925
5	14839.59	15063.59	15556.79	15201.218	0.6212	0.816
6	14753.956	15015.956	15592.824	15176.932	0.8122	0.796

Note: AIC = Akaike information criterion, BIC = Bayesian information criterion, ABIC = Adjusted Bayesian information criterion, LMRT = Lo-Mendell-Rubin test. Bolded text indicates the best class solution by considering both fit indices and the evaluation of substantive meaning of profiles.

Table 5. Mean-level differences across mother-adolescent acculturation profiles on indicaotrs.

Indicators		A-Integrated, M-Separated (N=117, 19.9%)	A-Moderately Assimilated, M-Moderately Separated (N=55, 9.4%)	A-Moderately Integrated, M-Moderately Separated (N=290, 49.3%)	A-Moderately Integrated, M-Separated (N=126, 21.4%)	*F* Statistics *F*(3,584)	*p*
Adolescent Mexican culture	*A-Mexican orientation*	4.44_{a}	3.11_{b}	3.90_{c}	3.66_{d}	116.84	< .001
	A-Spanish proficiency	3.98_{a}	3.08_{b}	3.58_{c}	3.40_{b}	18.27	< .001
	A-family obligation	4.60_{a}	3.63_{b}	4.22_{c}	4.14_{c}	46.32	< .001
	A-ethnic identity centrality	4.42_{a}	2.79_{b}	3.76_{c}	3.51_{d}	157.67	< .001
	A-ethnic identity exploration	4.22_{a}	2.31_{b}	3.30_{c}	3.23_{c}	137.12	< .001
	A-ethnic identity resolution	4.76_{a}	2.79_{b}	3.98_{c}	3.78_{d}	249.85	< .001
Adolescent U.S. culture	*A-U.S. orientation*	4.11_{a}	3.33_{b}	3.73_{c}	3.59_{c}	47.33	< .001
	A-English proficiency	4.37_{a}	4.09_{ab}	4.22_{ab}	4.04_{b}	5.5	0.001
	A-individualism	3.63_{a}	3.35_{ab}	3.27_{b}	3.21_{b}	9.96	< .001
Mother Mexican culture	*M-Mexican orientation*	4.29_{a}	3.94_{b}	3.89_{b}	4.67_{c}	89.61	< .001
	M-Spanish proficiency	4.21_{ab}	3.80_{a}	4.00_{ab}	4.26_{b}	5.95	< .001
	M-family obligation	4.49_{ac}	4.33_{ab}	4.25_{b}	4.57_{c}	18.46	< .001
	M-ethnic identity centrality	4.04_{a}	3.74_{b}	3.74_{b}	4.45_{c}	48.69	< .001
	M-ethnic identity exploration	3.61_{a}	2.95_{b}	3.16_{b}	4.17_{c}	54.14	< .001
	M-ethnic identity resolution	4.29_{a}	3.90_{b}	3.90_{b}	4.72_{c}	84.72	< .001
Mother U.S. culture	*M-U.S. orientation*	3.46_{abc}	3.07_{b}	3.27_{b}	3.64_{c}	18.24	< .001
	M-English proficiency	1.59_{a}	1.54_{a}	1.54_{a}	1.60_{a}	0.28	0.837
	M-individualism	3.89_{a}	3.88_{a}	3.76_{a}	4.34_{b}	18.34	< .001

Note. Means that do not share a subscript within a row are significantly different from one another, $p < .01$. A- = adolescent-report, M- = mother-report.

Table 6. Mean-level differences across father-adolescent acculturation profiles on indicaotrs.

		A-Integrated, F-Moderately Separated	A-Moderately Assimilated, F-Moderately Separated	A-Moderately Integrated, F-Moderately Separated	*F* Statistics	
Indicators		(N = 66, 23.1%)	(N=36, 12.6%)	(N=184, 64.3%)	*F*(2,283)	*p*
Adolescent Mexican culture	*A-Mexican orientation*	4.40$_a$	3.36$_b$	3.87$_c$	59.82	< .001
	A-Spanish proficiency	3.91$_a$	3.31$_b$	3.54$_b$	7.10	0.001
	A-family obligation	4.62$_a$	3.95$_b$	4.23$_c$	22.71	< .001
	A-ethnic identity centrality	4.39$_a$	2.85$_b$	3.68$_c$	93.41	< .001
	A-ethnic identity exploration	4.11$_a$	2.38$_b$	3.27$_c$	88.73	< .001
	A-ethnic identity resolution	4.77$_a$	2.70$_b$	3.93$_c$	285.92	< .001
Adolescent U.S. culture	*A-U.S. orientation*	4.14$_a$	3.53$_b$	3.70$_b$	27.32	< .001
	A-English proficiency	4.33$_a$	4.10$_a$	4.18$_a$	1.58	0.208
	A-individualism	3.74$_a$	3.35$_a$	3.17$_b$	19.17	< .001
Father Mexican culture	*F-Mexican orientation*	4.09$_a$	3.70$_b$	4.08$_a$	10.04	< .001
	F-Spanish proficiency	3.64$_a$	3.78$_a$	3.97$_a$	3.34	0.037
	F-family obligation	4.28$_a$	4.19$_a$	4.30$_a$	0.70	0.497
	F-ethnic identity centrality	3.91$_a$	3.60$_a$	3.89$_a$	3.63	0.028
	F-ethnic identity exploration	3.64$_a$	3.94$_b$	3.61$_a$	10.83	< .001
	F-ethnic identity resolution	4.14$_a$	3.70$_b$	4.12$_a$	6.88	0.001
Father U.S. culture	*F-U.S. orientation*	3.49$_a$	3.38$_a$	3.54$_a$	1.44	0.237
	F-English proficiency	1.83$_a$	1.74$_a$	1.84$_a$	0.21	0.810
	F-individualism	4.07$_a$	3.76$_b$	3.97$_a$	2.28	0.104

Note. Means that do not share a subscript within a row are significantly different from one another, $p < .01$. A- = adolescent report, F- = father report.

Figures

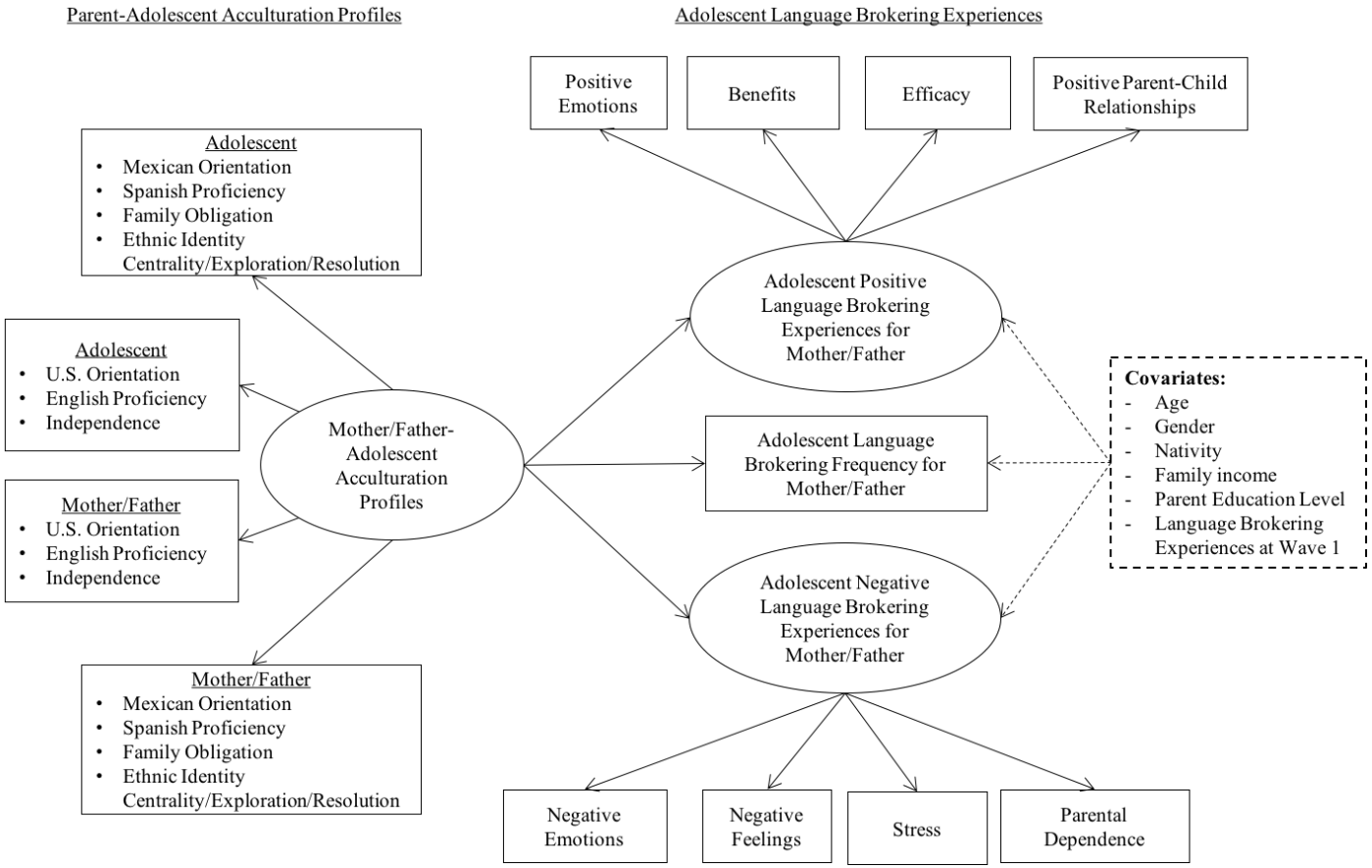

Figure 1. The conceptual model linking parent-child acculturation profiles and adolescent language brokering experiences in Mexican immigrant families. Models will be tested separately for mother-adolescent and father-adolescent dyads.

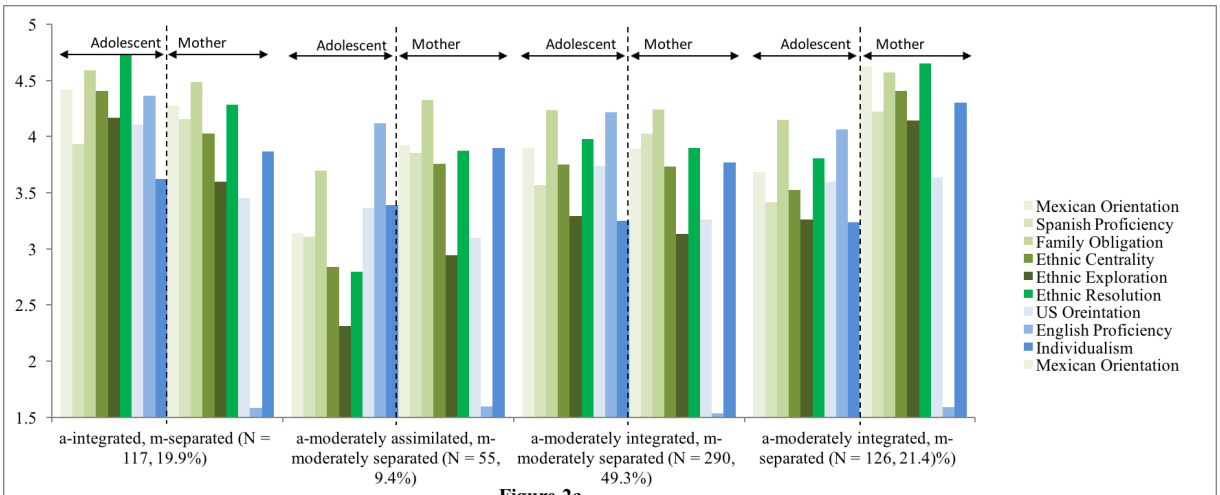

Figure 2a

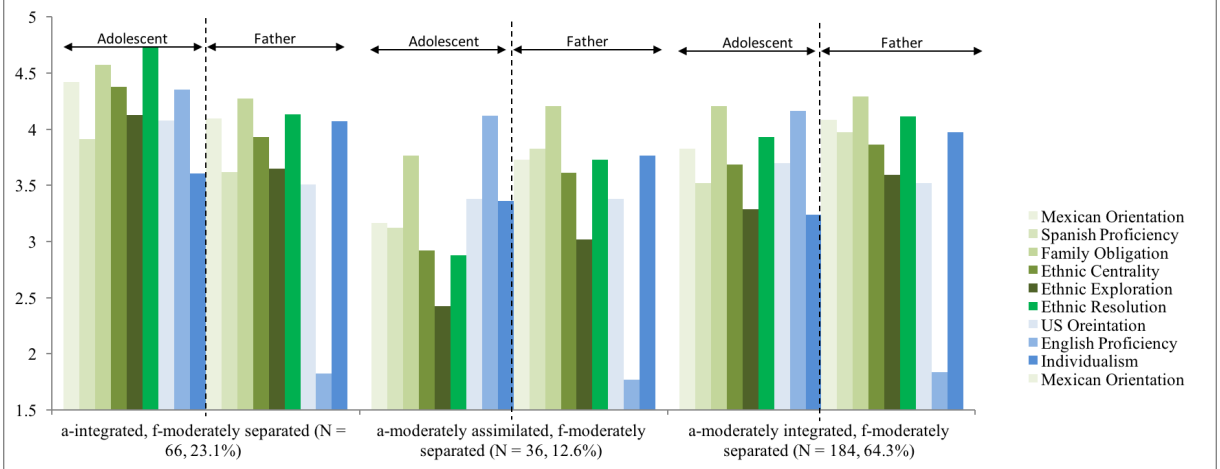

Figure 2b

Figure 2. Parent-adolescent acculturation profiles. Mother-adolescent acculturation profiles (2a) and father-adolescent acculturation profiles (2b). a = adolescent, m = mother, f = father.

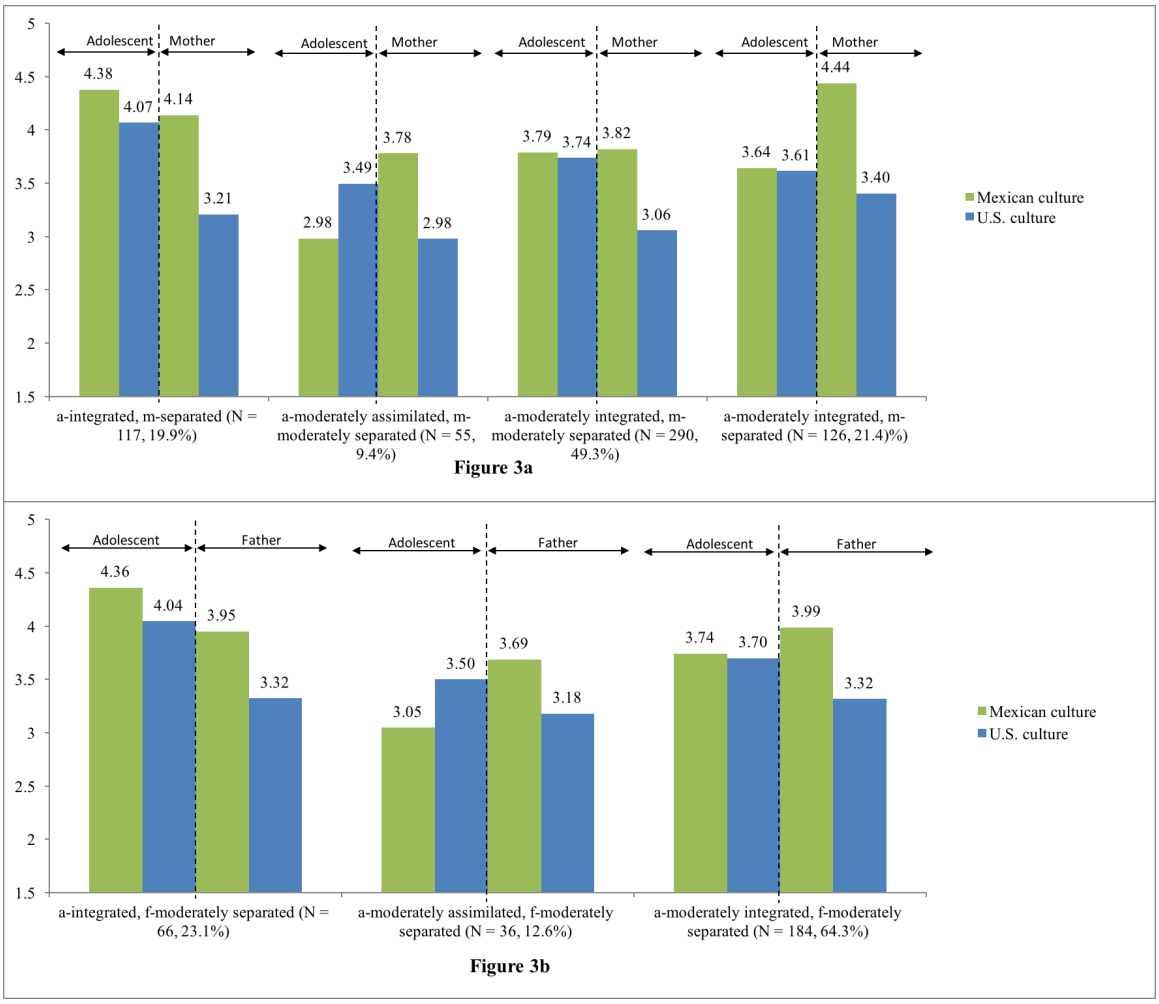

Figure 3. Simplified parent-adolescent acculturation profiles. Simplified mother-adolescent acculturation profiles (3a) and simplified father-adolescent acculturation profiles (2b). a = adolescent, m = mother, f = father.

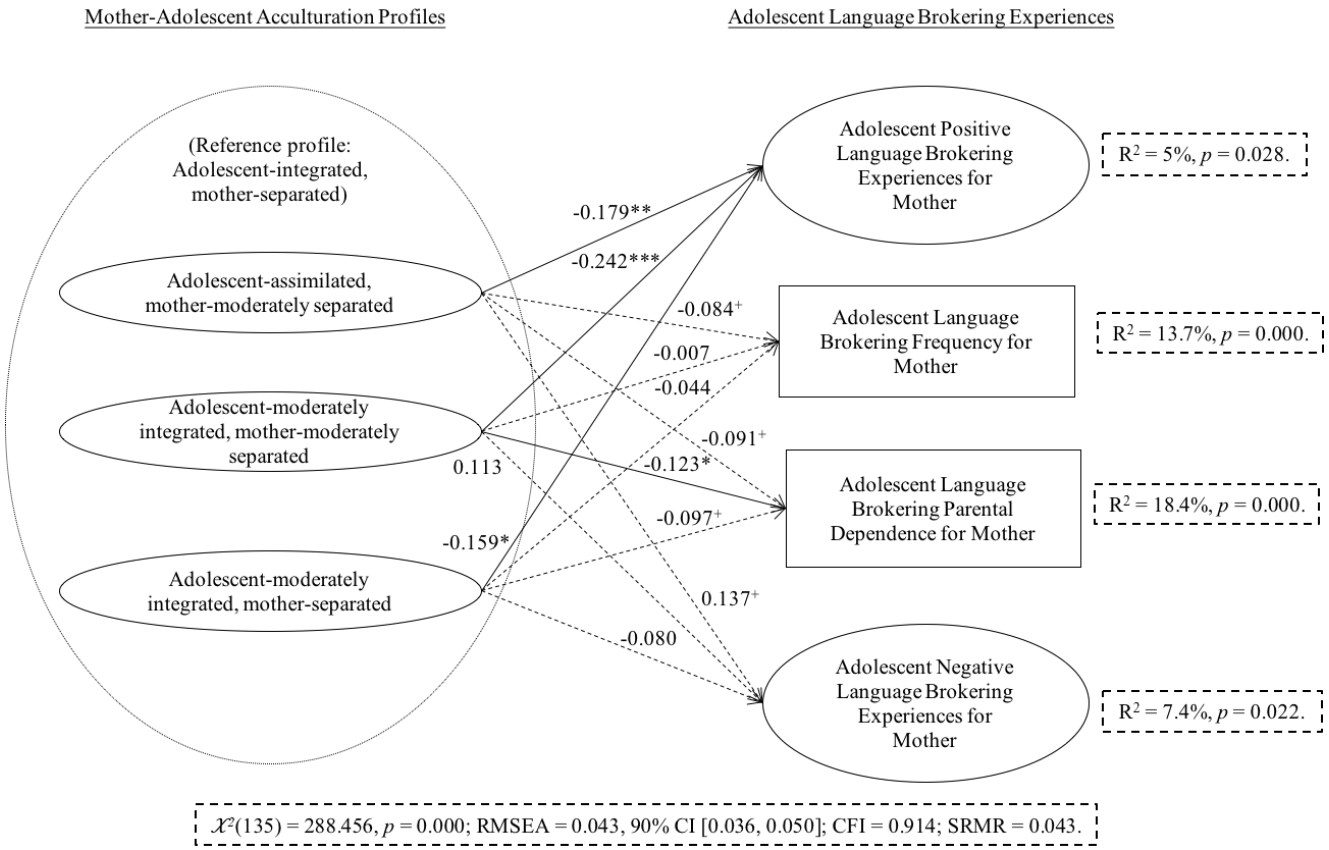

Figure 4. Standardized results of mother-adolescent acculturation profiles on adolescent language brokering experiences. Standardized coefficients of mother-adolescent acculturation profiles on adolescent language brokering experiences after controlling for adolescent age, gender, nativity, mother education level, household income, and wave 1 language brokering experiences are presented above. Dashed arrows represent non-significant pathways. Solid arrows represent significant pathways. + $p < .01$, * $p < .05$, ** $p < .01$, *** $p < .001$.

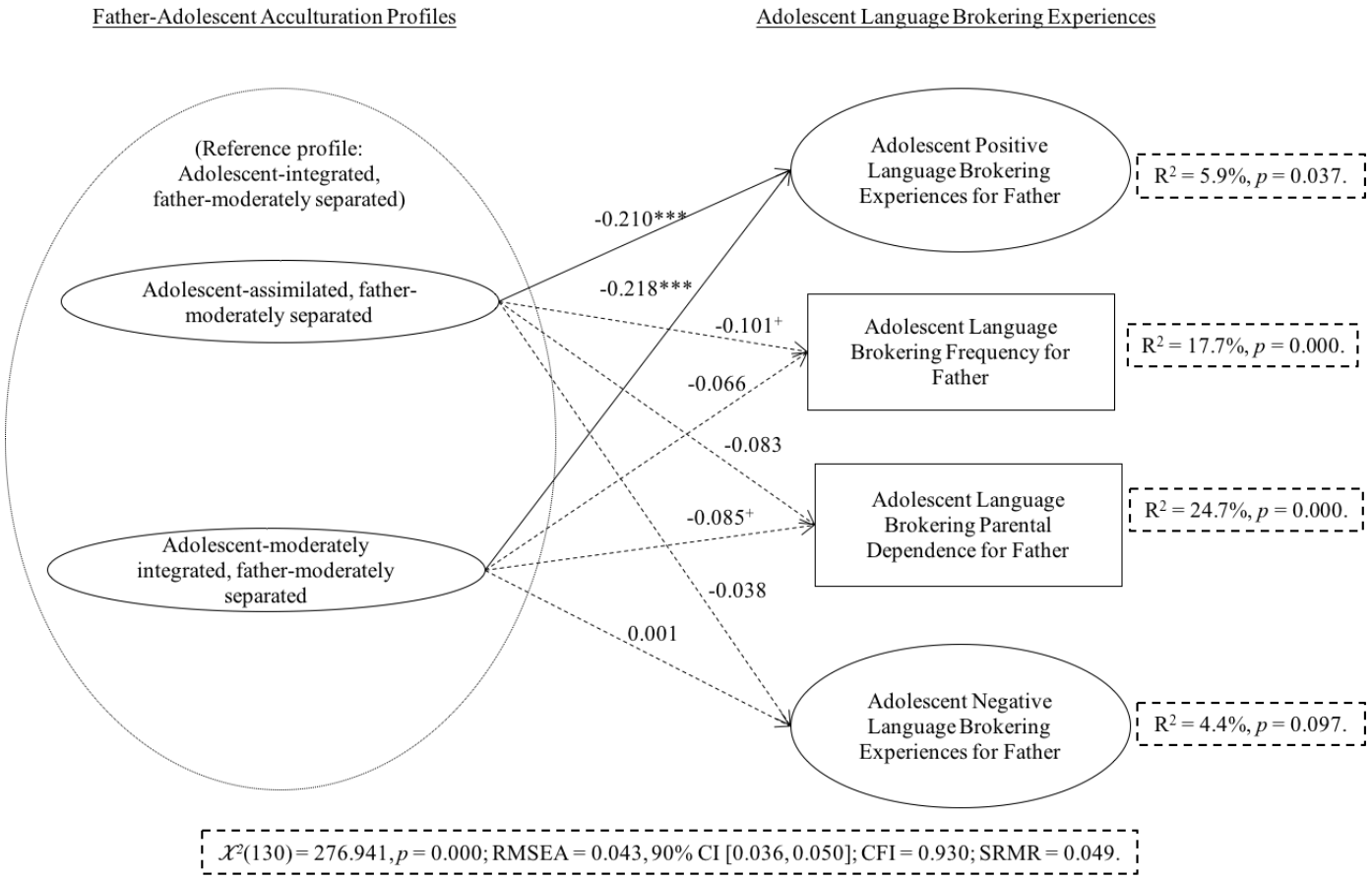

Figure 5. Standardized results of father-adolescent acculturation profiles on adolescent language brokering experiences. Standardized coefficients of father-adolescent acculturation profiles on adolescent language brokering experiences after controlling for adolescent age, gender, nativity, father education level, household income, and wave 1 language brokering experiences are presented above. Dashed arrows represent non-significant pathways. Solid arrows represent significant pathways. + $p < .01$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix A

Appendix A.1. List of items included in the *U.S. and Mexican Orientations* measure.

U.S. Orientation

1. I often follow typical U.S American cultural traditions (celebrate holidays).
2. I am willing to marry a U.S American person.
3. I enjoy social activities (hanging out) with U.S Americans.
4. I am comfortable working with U.S Americans.
5. I enjoy forms of U.S American entertainment (movies, music).
6. I often behave in ways that are typical of the U.S American culture (way of living or doing things).
7. It is important for me to maintain or develop typical U.S American cultural practices (way of living or doing things).
8. I believe in mainstream (typical) U.S American values (important beliefs).
9. I enjoy typical U.S American jokes and humor.
10. I am interested in having U.S American friends.

Mexican Orientation

1. I often follow traditions of the Mexican culture (way of living or doing things).
2. I am willing to marry a person of Mexican origin.
3. I enjoy social activities (hanging out) with people of Mexican origin.
4. I am comfortable working with people of Mexican origin.
5. I enjoy forms of Mexican entertainment (movies, music).
6. I often behave in ways that are typical of the Mexican culture (way of living or doing things).

7. It is important for me to maintain or develop cultural practices (way of living or doing things).
8. I believe in mainstream (typical) Mexican values (important beliefs).
9. I enjoy typical Mexican jokes and humor.
10. I am interested in having friends of Mexican origin.

Appendix A.2. List of items included in the *English and Spanish Proficiency* measure.

English Proficiency

1. How well do you speak and understand English?
2. How well do you read in English?
3. How well do you write in English?

Spanish Proficiency

1. How well do you speak and understand Spanish?
2. How well do you read in Spanish?
3. How well do you write in Spanish?

Appendix A.3. List of items included in the *Independence* measure.

1. People should be allowed to make their own.

2. People should learn how to take care of themselves and not depend on others.

Appendix A.4. List of items included in the *Family Obligation* measure.

1. Treat your parents with respect.
2. Follow your parents' advice about choosing friends.
3. Do well for the sake of the family.
4. Follow your parents' advice about your future.
5. Make sacrifices (give up something) for your family.
6. Spend time at home with your family.
7. Run errands that the family needs done.
8. Help out around the house.
9. Eat meals with your family.
10. Help your parents financially (give them money) in the future when you get older.
11. Live at home with your parents until you are married.
12. That your parents live with you when they get older.
13. Spend time with your parents even after you no longer live with them.

Appendix A.5. List of items included in the *Ethnic Identity* measure.

1. I have a sense of belonging with other Mexican people. (Centrality)
2. If I were to describe myself to someone, one of the first things that I would say is that I'm Mexican. (Centrality)
3. Being Mexican is an important part of who I am. (Centrality)
4. I have spent time trying to find out more about being Mexican, such as its history, traditions, and customs. (Exploration)
5. I have often done things that will help me understand my Mexican background better. (Exploration)
6. I have learned about being Mexican by doing things such as reading (books, magazines, and newspapers), searching the internet, or keeping up with current events. (Exploration)
7. I understand how I feel about being Mexican. (Resolution)
8. I have a clear sense of what being Mexican means to me. (Resolution)
9. I know what being Mexican means to me. (Resolution)

Appendix A.6. List of items included in the *Subjective Language Brokering Experiences* measure.

Please think about what it is like when you translate from English to Spanish for your mother/father. How much do you agree with the following statements?

1. When I translate for my mother/father it strengthens my Spanish skills. (Benefits)
2. When I translate for my mother/father it strengthens my English skills. (Benefits)
3. I strengthen my Spanish vocabulary when I translate for my mother/father. (Benefits)
4. I feel independent and mature when I translate for my mother/father. (Benefits)
5. I feel useful (that my help is necessary) because I translate for my mother/father. (Benefits)
6. I am in situations where I practice my social skills (interactions with others), because I translate for my mother/father. (Benefits)
7. Because I translate for my mother/father, I have had to learn how to communicate effectively (people understand me well). (Benefits)
8. I am good at translating for my mother/father. (Efficacy)
9. I am skilled at translating for my mother/father. (Efficacy)
10. I am effective (do what is expected) at translating for my mother/father. (Efficacy)
11. I translate correctly for my mother/father. (Efficacy)
12. I understand my mother/father better because I translate for her/him. (Positive-parent-child relationships)
13. I desire to (want to) help my mother/father more because I translate for her/him. (Positive-parent-child relationships)
14. I feel a close bond to my mother/father because I translate for her/him. (Positive-parent-child relationships)

15. I think my mother/fathers opinion is important because I translate for her/him. (Positive-parent-child relationships)

Parental dependence

16. I feel more knowledgeable (know more) than my mother/father because I translate for her/him. (Parental dependence)
17. My mother/father is not in control of the situation when she asks me to translate. (Parental dependence)
18. I feel I am my mother/father protector because I translate for her/him. (Parental dependence)
19. I am aware of my mother/father's problems because I translate for her/him. (Parental dependence)
20. I become impatient when my mother/father asks me to translate for her/him. (Negative feelings)
21. I feel desperation when my mother/father asks me to translate for her/him. (Negative feelings)
22. I would rather do other things than translate for my mother/father. (Negative feelings)
23. I have disappointed my mother/father by translating poorly. (Negative feelings)

Appendix A.7. List of items included in the *Language Brokering Stress* measure.

How stressful is it to translate from English to Spanish the following things for your mother/father?

1. Your homework (for your mother/father).
2. Report cards or school progress reports/other school information (for your mother/father).
3. Phone calls (for your mother/father).
4. Explaining the use of products (for your mother/father).
5. Entertainment (television shows, movies, music) (for your mother/father).
6. Use of technology (computer, Internet, smartphone, tablet) (for your mother/father).
7. Receipts, prices, or other things at a store (for your mother/father).
8. Bills (telephone, gas, water, or electric) (for your mother/father).
9. Explaining work notices, manuals, or instructions for your mother/father's job.
10. Filling out applications (for job, housing, insurance) (for your mother/father).
11. Filling out government documents or other legal documents (for your mother/father).

Appendix A.8. List of items included in the *Language Brokering Emotions* measure.

Please rate how often feel each of these emotions when you translate from English to Spanish for your mother/father.

1. Angry. (Negative Emotion)
2. Enthusiastic (show great excitement). (Positive Emotions)
3. Annoyed (feel fed up). (Negative Emotion)
4. Excited. (Positive Emotions)
5. Sad. (Negative Emotion)
6. Happy. (Positive Emotions)
7. Embarrassed. (Negative Emotion)

References

Acoach, C. L., & Webb, L. M. (2004). The influence of language brokering on Hispanic teenagers' acculturation, academic performance, and nonverbal decoding skills: A preliminary study. *Howard Journal of Communications*, *15*, 1-19. doi: 10.1080/10646170490275459

Bámaca-Colbert, M. Y., & Gayles, J. G. (2010). Variable-centered and person-centered approaches to studying Mexican-origin mother–daughter cultural orientation dissonance. *Journal of youth and adolescence*, *39*, 1274-1292. doi: 10.1007/s10964-009-9447-3

Berry, J. W. (1980). Social and cultural change. In H. C. Triandis & R. Brislin (Eds.), *Handbook of cross-cultural psychology* (Vol. 5, pp. 211-279). Boston: Allyn & Bacon.

Berry, J. W., Phinney, J. S., Sam, D. L., & Vedder, P. (2006). Immigrant Youth: Acculturation, Identity, and Adaptation. *Applied Psychology: An International Review*, *55*, 303-332. doi: 10.1111/j.1464-0597.2006.00256.x

Birman, D. (2006). Acculturation gap and family adjustment: Findings with Soviet Jewish refugees in the United States and implications for measurement. *Journal of Cross-Cultural Psychology*, *37*, 568-589. doi: 10.1177/0022022106290479

Burleson, B. R. (2010). The nature of interpersonal communication. In M. E. R. C. R. Berger, & D. R. Roskos-Ewoldsen (Ed.), *The handbook of communication science* (pp. 145-164). Los Angeles, CA: Sage.

Chao, R. K. (2006). The prevalence and consequences of adolescents' language brokering for their immigrant parents. In M. H. Bornstein & L. R. Cote (Eds.), *Acculturation and parent–child relationships: Measurement and development* (pp. 271-296). Mahwah, NJ: Erlbaum.

Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science*, *12*, 193-196. doi: 10.1111/1467-8721.01259

Dorner, L. M., Orellana, M. F., & Jiménez, R. (2008). "It's one of those things that you do to help the family": Language brokering and the development of immigrant adolescents. *Journal of Adolescent Research*, *23*, 515-543. doi: 10.1177/0743558408317563

Dunn, A. L., & Tree, J. E. F. (2009). A quick, gradient bilingual dominance scale. Bilingualism: *Language and Cognition*, *12*, 273-289. doi: 10.1017/S1366728909990113

Fuligni, A. J., Tseng, V., & Lam, M. (1999). Attitudes towards family obligations among American adolescents with Asian, Latin American, and European Backgrounds. *Child Development*, *70*, 1030-1044. doi: 10.1111/1467-8624.00075

Fuligni, A. J., Witkow, M., & Garcia, C. (2005). Ethnic identity and the academic adjustment of adolescents from Mexican, Chinese, and European backgrounds. *Developmental psychology*, *41*, 799. doi: 10.1037/0012-1649.41.5.799

Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, *6*, 53-60.

Hua, J., & Costigan, C. (2012). The familial context of adolescent language brokering within immigrant Chinese families in Canada. *Journal of Youth and Adolescence*, 1-13. doi: 10.1007/s10964-011-9682-2

Jang, Y., Park, N. S., Chiriboga, D. A., & Kim, M. T. (2017). Latent Profiles of Acculturation and Their Implications for Health: A Study With Asian Americans in Central Texas. *Asian American Journal of Psychology*. doi: 10.1037/aap0000080

Jones, C. J., Trickett, E. J., & Birman, D. (2012). Determinants and consequences of child culture brokering in families from the former Soviet Union. *American Journal of Community Psychology*, *50*, 182-196. doi: 10.1007/s10464-012-9488-8

Kam, J. A. (2009). *Disentangling the effects of cultural brokering among Mexican-heritage youth (Doctoral dissertation)*. The Pennsylvania State University, State College, PA.

Kam, J. A. (2011). The effects of language brokering frequency and feelings on Mexican-heritage youth's mental health and risky behaviors. *Journal of Communication*, *61*, 455-475. doi: 10.1111/j.1460-2466.2011.01552.x

Kam, J. A., & Lazarevic, V. (2014a). Communicating for one's family: An interdisciplinary review of language and cultural brokering in immigrant families. In E. L. Cohen (Ed.), *Communication yearbook 38* (pp. 3-38). New York: Routledge.

Kam, J. A., & Lazarevic, V. (2014b). The stressful (and not so stressful) nature of language brokering: Identifying when brokering functions as a cultural stressor for Latino immigrant children in early adolescence. *Journal of Youth and Adolescence*, *43*, 1994-2011. doi: 10.1007/s10964-013-0061-z

Katz, V. S. (2010). How children of immigrants use media to connect their families to the community: The case of Latinos in South Los Angeles. *Journal of Children and Media*, *4*, 298-315. doi: 10.1080/17482798.2010.486136

Kim, S. Y., Hou, Y., & Gonzalez, Y. (2017). Language brokering and depressive symptoms in Mexican American adolescents: Parent-child alienation and resilience as moderators. *Child Development*, *88*, 867-881. doi: 10.1111/cdev.12620

Kim, S. Y., Hou, Y., Shen, Y., & Zhang, M. (2017). Longitudinal measurement equivalence of subjective language brokering experiences for mothers and fathers in Mexican American adolescents. *Cultural Diversity and Ethnic Minority Psychology*, *23*, 230-243. doi: 10.1037/cdp0000117

Kim, S. Y., Wang, Y., Chen, Q., Shen, Y., & Hou, Y. (2015). Parent–child acculturation profiles as predictors of Chinese American adolescents' academic trajectories. *Journal of Youth and Adolescence*, *44*, 1263-1274. doi: 10.1007/s10964-014-0131-x

Kim, S. Y., Wang, Y., Weaver, S. R., Shen, Y., Wu-Seibold, N., & Liu, C. H. (2014). Measurement equivalence of the language-brokering scale for Chinese American adolescents and their parents. *Journal of Family Psychology*, *28*, 180-192. doi: 10.1037/a0036030

Knight, G. P., Gonzales, N. A., Saenz, D. S., Bonds, D. D., Germán, M., Deardorff, J., . . . Updegraff, K. A. (2010). The Mexican American Cultural Values Scale for adolescents and adults. *The Journal of Early Adolescence*, *30*, 444-481. doi: 10.1177/0272431609338178

Knight, G. P., Jacobson, P., & Gonzales, A. (2009). Enculturation processes among recently immigrating populations. In R. L. Dalla, J. Defrain, J. Johnson & D. A. Abbott (Eds.), *Strengths and challenges of new immigrant families: Implications for research, education, policy, and service* (pp. 9-31). Lanham, MD: Lexington Books.

Muthén, L. K., & Muthén, B. O. (1998–2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.

Niehaus, K., & Kumpiene, G. (2014). Language brokering and self-concept: An exploratory study of Latino students' experiences in middle and high school. *Hispanic Journal of Behavioral Sciences*, *36*, 124-143. doi: 10.1177/0739986314524166

Nieri, T., Lee, C., Kulis, S., & Marsiglia, F. F. (2011). Acculturation among Mexican-heritage preadolescents: A latent class analysis. *Social Science Research*, *40*, 1236-1248. doi: 10.1016/j.ssresearch.2011.02.005

Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2008). 'Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study': Erratum. *Structural Equation Modeling*, *15*, 182-182. doi: 10.1080/10705510701793320

Orellana, M. F., Dorner, L., & Pulido, L. (2003). Accessing assets: Immigrant youth's work as family translators or "paraphrasers". *Social Problems*, *50*, 505-524. doi: 10.1525/sp.2003.50.4.505

Roche, K. M., Lambert, S. F., Ghazarian, S. R., & Little, T. D. (2015). Adolescent language brokering in diverse contexts: Associations with parenting and parent–

youth relationships in a new immigrant destination area. *Journal of Youth and Adolescence*, *44*, 77-89. doi: 10.1007/s10964-014-0154-3

Ryder, A. G., Alden, L. E., & Paulhus, D. L. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of Personality and Social Psychology*, *79*, 49-65. doi: 10.1037/0022-3514.79.1.49

Salas-Wright, C. P., Clark, T. T., Vaughn, M. G., & Córdova, D. (2015). Profiles of acculturation among Hispanics in the United States: Links with discrimination and substance use. *Social Psychiatry and Psychiatric Epidemiology*, *50*, 39-49. doi: 10.1007/s00127-014-0889-x

Schofield, T. J., Parke, R. D., Kim, Y., & Coltrane, S. (2008). Bridging the acculturation gap: Parent-child relationship quality as a moderator in Mexican American families. *Developmental Psychology*, *44*, 1190. doi: 10.1037/a0012529

Schwartz, S. J., Unger, J. B., Baezconde-Garbanati, L., Zamboanga, B. L., Córdova, D., Lorenzo-Blanco, E. I., . . . Szapocznik, J. (2016). Testing the parent–adolescent acculturation discrepancy hypothesis: A five-wave longitudinal study. *Journal of Research on Adolescence*, *26*, 567-586. doi: 10.1111/jora.12214

Schwartz, S. J., & Zamboanga, B. L. (2008). Testing Berry's model of acculturation: A confirmatory latent class approach. *Cultural Diversity and Ethnic Minority Psychology*, *14*, 275-285. doi: 10.1037/a0012818

Sellers, R. M., Rowley, S. A. J., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and constuct validity. *Journal of Personality and Social Psychology*, *73*, 805-815. doi: 10.1037/0022-3514.73.4.805

Shen, Y., Tilton, K. E., & Kim, S. Y. (2017). Outcomes of language brokering, mediators, and moderators: A systematic review. In R. S. Weisskirch (Ed.), *Language brokering in immigrant families: Theories and contexts*. New York, NY: Routledge.

Stepler, R., & Brown, A. (2015). *Statistical portrait of Hispanics in the United States, 1980–2013*. Washington, DC: Pew Research Center.

Telzer, E. H. (2010). Expanding the acculturation gap-distress model: An integrative review of research. *Human Development*, *53*, 313-340. doi: 10.1159/000322476

Telzer, E. H., Yuen, C., Gonzales, N., & Fuligni, A. J. (2016). Filling gaps in the acculturation gap-distress model: Heritage cultural maintenance and adjustment in mexican–american families. *Journal of Youth and Adolescence*. doi: 10.1007/s10964-015-0408-8

Trickett, E. J., & Jones, C. J. (2007). Adolescent culture brokering and family functioning: A study of families from Vietnam. *Cultural Diversity and Ethnic Minority Psychology*, *13*, 143. doi: 10.1037/1099-9809.13.2.143

Tse, L. (1995). Language brokering among Latino adolescents: Prevalence, attitudes, and school performance. *Hispanic Journal of Behavioral Sciences*, *17*, 180-193. doi: 10.1177/07399863950172003

Umaña-Taylor, A. J., Yazedjian, A., & Bámaca-Gómez, M. (2004). Developing the ethnic identity scale using Eriksonian and social identity perspectives. *Identity: An International Journal of Theory and Research*, *4*, 9-38. doi: 10.1207/S1532706XID0401_2

Villanueva, C. M., & Buriel, R. (2010). Speaking on behalf of others: A qualitative study of the perceptions and feelings of adolescent Latina language brokers. *Journal of Social Issues*, *66*, 197-210. doi: 10.1111/j.1540-4560.2009.01640.x

Weaver, S. R., & Kim, S. Y. (2008). A person-centered approach to studying the linkages among parent–child differences in cultural orientation, supportive parenting, and adolescent depressive symptoms in Chinese American families. *Journal of youth and adolescence*, *37*, 36-49. doi: 10.1007/s10964-007-9221-3

Weisskirch, R. S. (2005). The relationship of language brokering to ethnic identity for Latino early adolescents. *Hispanic Journal of Behavioral Sciences*, *27*, 286-299. doi: 10.1177/0739986305277931

Weisskirch, R. S. (2017). Future directions for language brokering research. In R. S. Weisskirch (Ed.), *Language brokering in immigrant families: Theories and contexts*. New York, NY: Routledge.

Weisskirch, R. S., & Alva, S. A. (2002). Language brokering and the acculturation of Latino children. *Hispanic Journal of Behavioral Sciences*, *24*, 369-378. doi: 10.1177/0739986302024003007

Wu, N. H., & Kim, S. Y. (2009). Chinese American adolescents' perceptions of the language brokering experience as a sense of burden and sense of efficacy. *Journal of Youth and Adolescence*, *38*, 703-718. doi: 10.1007/s10964-008-9379-3